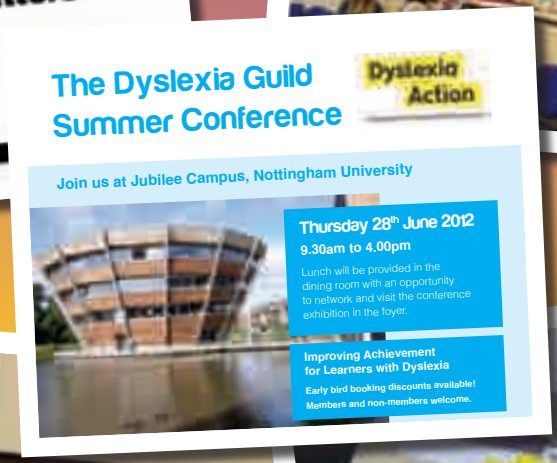
Dyslexia REVIEW

www.dyslexiaaction.org.uk | Summer 2012


The Dyslexia Guild
Summer Conference
Dyslexia Action
Join us at Jubilee Campus, Nottingham University
Thursday 28th June 2012
9.30am to 4.00pm
Lunch will be provided in the dining room with an opportunity to network and visit the conference exhibition in the foyer.
Improving Achievement for Learners with Dyslexia
Early bird booking discounts available!
Members and non-members welcome.

The Journal of The Dyslexia Guild Volume 23 Number 2

In this issue:

Working Memory

Inside Prison Libraries

Rapid Audiotory Processing

Dyslexia Action

JOIN THE DYSLEXIA GUILD!

Dyslexia Action
Training and Professional Development

The Professional Body of Dyslexia Action

Who is it for?

For anyone with a general or professional interest in dyslexia. Members include teachers, SENCos, teaching assistants, FE and HE tutors, parents, assessors, and other advisory specialists.

The Aim

We aim to promote discussion, information and research as well as keeping members informed of developments in the field through publication and distribution.

Benefits

- Library membership of the National Training Resource Centre
- Dyslexia Review three times a year
- Conferences and events at reduced rates
- Guild Gallery electronic newsletter
- Preferential discounts on courses, suppliers and CPD events
- Assessment Practising Certificate
- Professional Indemnity Insurance at preferential rates for APC

Group membership is also available to schools, library services, publishers and other groups.

You get two copies of the Dyslexia Review and discounted rates for up to three delegates at our conference events.

For more information see our web page http://training.dyslexiaaction.org.uk
Email guild@dyslexiaaction.org.uk or call 01784 222342

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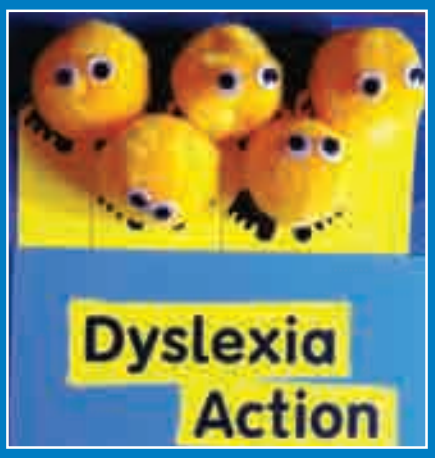
Editorial

If Summer Conference event organising was an Olympic event would we have obtained a medal? Well we certainly received very positive feedback from our participants and over the two days it felt like a marathon (and rather a wet one at times) so I hope we qualify. In either case it was rewarding as always to see so many members both UK and International, networking and enjoying themselves and to hear a range of enlightening speakers. The Conference Dinner the night before was an enjoyable event too and an opportunity to catch up with each other in a more relaxed way. It is our intention to offer this facility again to those who might like to participate at our Conference in 2013. Details of the next venue will be available shortly and a diary date will be advertised through our electronic newsletter Guild Gallery.

This issue of the Review has articles from our keynote conference speakers as well as a guest article from our award-winning postgraduate student. It is good to see our up and coming specialist teachers working alongside more experienced writers. Our sincere thanks go to all of them for their presentations and follow on articles. Barry Johnson, Head of Assessment Services also provides an interesting insight in his article on Cognitive Decline. It would be good to hear a counter point of view on the value that qualities such as experience, wisdom and forbearance can bring as an additional dimension to the ageing process; and to those of us who feel we are more senior citizen than spring chicken on the horizontal axis of life.

We are pleased to include an article on Prison Libraries in this issue, an area of significant importance for those working with adult learners and yet still a pioneering area of work in the field of Dyslexia and SpLD. There is still much to be done I hear you cry and yet every issue of the Dyslexia Review reminds us too of how much we have achieved so far and in Olympic terms the many medals the work in this field would justifiably obtain.

Kathryn Benzine
Editor



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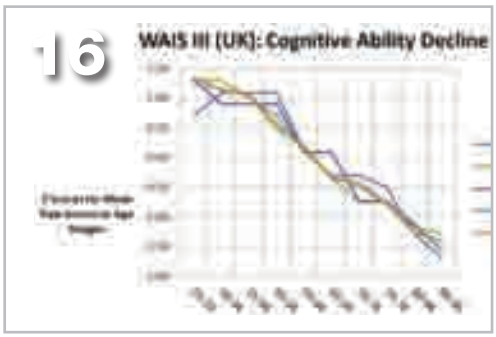

Cognitive Decline

Dyslexia-SpLD Framework

The Dyslexia Specialist

Membership News

Jan Seabourne reports on some new developments and events for Guild members.

Guild Conference

It was lovely to meet so many of you at the Guild Summer Conference in Nottingham this year, especially those of you who made the trip from outside the UK, and your stoic attitude to the flood into the exhibition area! Well, it was the wettest June across the UK since 1910 according to the Met Office. Many of you commented on the excellent keynote sessions by Dr Joni Holmes and Dr Lindsay Peer, and our Cardiff Centre Principal Anne Rees received much praise for her Teaching Maths to Dyslexic Children and Adults seminar. See our web page **http://www.dyslexiaaction.org.uk/news/guild-conference-round-up**

Our CEO Kevin Geeson spoke about "Dyslexia Still Matters" the latest report produced by Dyslexia Action that looks at where we are now in terms of identification and provision for dyslexia/SpLD, and examines the potential challenges of the proposed reforms to SEN education. The report provides examples of best practice and offers solutions, with a series of recommendations and a call for a national dyslexia and literacy strategy.

You can download a copy from:
http://www.dyslexiaaction.org.uk/dyslexia-still-matters

Diagnostic Report Writing Day

Many of you attended our one day CPD course which was a tremendous success. Having run the first one, we can see that there is a lot of demand from those of you who have Assessment Practising Certificates, and we will be offering this course on a regular basis at various venues around the country.

This one day course covers current best practice in assessment report writing and meeting the new SpLD Assessment Standards Committee (SASC) criteria and would also count against your required 5 hours of face to face SASC approved Continuing Professional Development (CPD) training.

The next one takes place on Friday 28th September 2012 at the MIC Centre in Euston, London. Places are limited so please register at: **http://training.dyslexiaaction.org.uk/reportwriting**

Renewing your APC or applying for APC

To improve efficiency we will be asking people to either apply or renew for their APC online and upload their documentation. Those who still wish to send in hard copy (paper) applications can do so but it must be in triplicate. This will take effect from 1st October 2012. All existing APC holders will be informed of the new procedure by email.

Please see more details on our web page: http://training.**dyslexiaaction.org.uk/assessmentpractisingcertificate**

Directory of APC holders

There has been a lot of discussion recently about the Guild producing a list of APC holders that can be made available to parents and other interested parties. Name, Certificate number, date of validity, address, one telephone number and one email details would be included for all members for free. If you would like to include more details to promote your skills there would be an additional cost of £25. This list would be updated each year and would be free in electronic format to Guild members. Hard copies will be made available but would incur a small cost to cover production and postage costs.

You will have the opportunity to correct and amend any of the details before the directory goes to press.

If you are a Dyslexia Action APC holder and you would like to include more details about yourself or you do not wish to be included in the list please contact me.

National Training Resource Centre

We have been busy upgrading our library computer system over the summer and it will be ready to launch in the Autumn term. New features include:

- Searching for books etc from your computer at home or anywhere with internet access, by author, title, subject or keyword
- Downloading from an electronic resource of items produced by Dyslexia Action/Institute and others
- Access to E-books
- Renewing your loans online
- Reserving items that are out so you are next in line to borrow them
- Adding reviews and comments to items

The NTRC is a unique resource and benefit of Guild membership that covers all subjects related to dyslexia, and has a large Teaching Resources section with materials for teachers to enhance learning in spelling, reading, writing, comprehension, numeracy, music, thinking skills and language. The section includes games and activities such as Smart Chute, Reading Games, Consonant Cluster Dominoes and Picture Sound Lotto that teachers can borrow to see if they would like to buy for their school. If you are a Guild member, you are already a library member. Details of the link to the library catalogue will be emailed out to all members once it goes live.

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Dyslexia Action Centre Directory

Delegates at the 2012 Guide Conference in Nottingham.

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Hull	01482 329416
Leeds	0113 242 9626
Leicester	01162 511525
Lincoln	01522 539267
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London	0207 391 2030
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Working memory and learning difficulties

Dr Joni Holmes from the Cognition and Brain Sciences Unit in Cambridge University, provides an insight into the difficulties faced by learners with poor working memory and discusses interventions designed to improve working memory function.

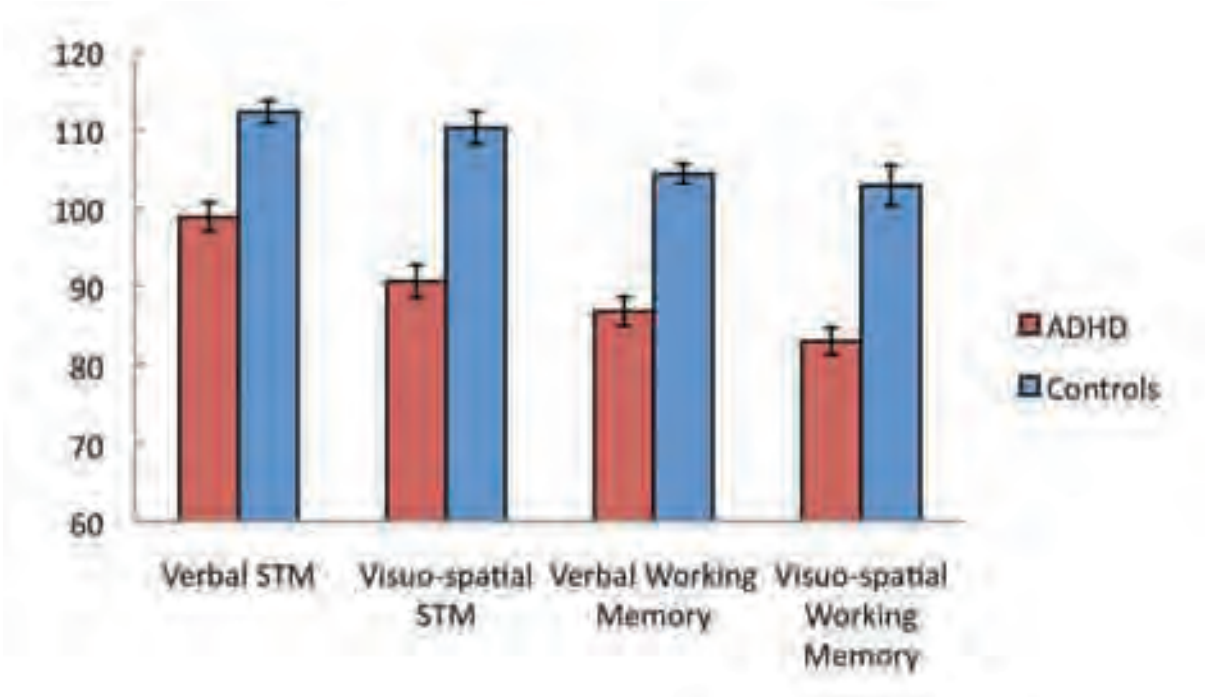
Children struggle to cope with the demands of the classroom for many different reasons, including when they have poor working memory skills. Presenting as an inability to stay on task and complete everyday classroom activities, working memory impairments are relatively common and represent a significant risk factor for educational failure for many children. In this article, I provide an overview of the characteristics of children with working memory difficulties and review current methods for remediating the consequences of poor working memory function.

What is working memory?

Working memory enables us to store information in our minds for short periods of time and use it in our current thinking. It is a kind of mental workspace that we use for many aspects of our everyday life, including reading comprehension, mental arithmetic and planning a series of thoughts or actions. For children, it appears to play a crucial role both in supporting learning and in maintaining focused behaviour in the classroom.

There is an upper limit to the amount of information that we can hold and manipulate in working memory at any given time. This capacity changes across the lifespan and varies greatly between individuals of the same age. For typically developing children, working memory capacity increases steadily up to the age of 14/15 years where it reaches adult levels (Alloway, Gathercole & Pickering , 2006). However, for some children, working memory follows an atypical developmental trajectory that results in a smaller capacity than is typical for their age (e.g. Westerberg, Hirvikoski, Forssberg & Klingberg, 2004). Deficits in working memory are a common feature of a wide range of developmental disorders and specific learning difficulties, including ADHD, dyslexia, specific language impairment, and reading and mathematical difficulties (Archibald & Gathercole, 2007; Geary, Hoard, Byrd-Craven, Nugent & Numtee, 2007; Holmes, Gathercole, Hilton, Place, Alloway, Elliott, 2012; Jeffries & Everatt, 2004; Swanson & Sachse-Lee 2007 – see Figure 1). They can also occur in the absence of any diagnosed disorder, and represent a significant risk factor for poor educational progress (e.g. Gathercole & Alloway, 2008).

Figure 1 *Short-term and working memory scores of children with ADHD compared to an age-matched comparison group, from Holmes et al. 2012.*



What does a child with poor working memory look like and why is it a risk factor for learning difficulties?

Because working memory is used to process and store information during complex and demanding activities, it supports many activities that children routinely engage in at school. Imagine, for example, attempting to read and comprehend a passage of text. The process of reading sentences, holding them in mind and integrating the information to uncover the meaning relies heavily on the ability to simultaneously process and store information over the short term. Similarly, following a set of complex instructions, which a child will often have to do in the classroom, relies on the ability to remember the different parts of the instruction whilst carrying out the various steps to complete the action successfully.

Observations of children in the classroom, combined with teacher reports, have highlighted the major signs of a working memory difficulty. These include: poor academic progress, difficulties following multi-step instructions, failing to complete common classroom activities that require large amounts of information to be held in mind, problems keeping their place in demanding and complex activities such as writing, and high levels of inattentive and distractible behaviour (Gathercole & Alloway, 2008; Gathercole, Alloway, Kirkwood, Elliott, Holmes & Hilton, 2008; Gathercole, Lamont & Alloway, 2006).

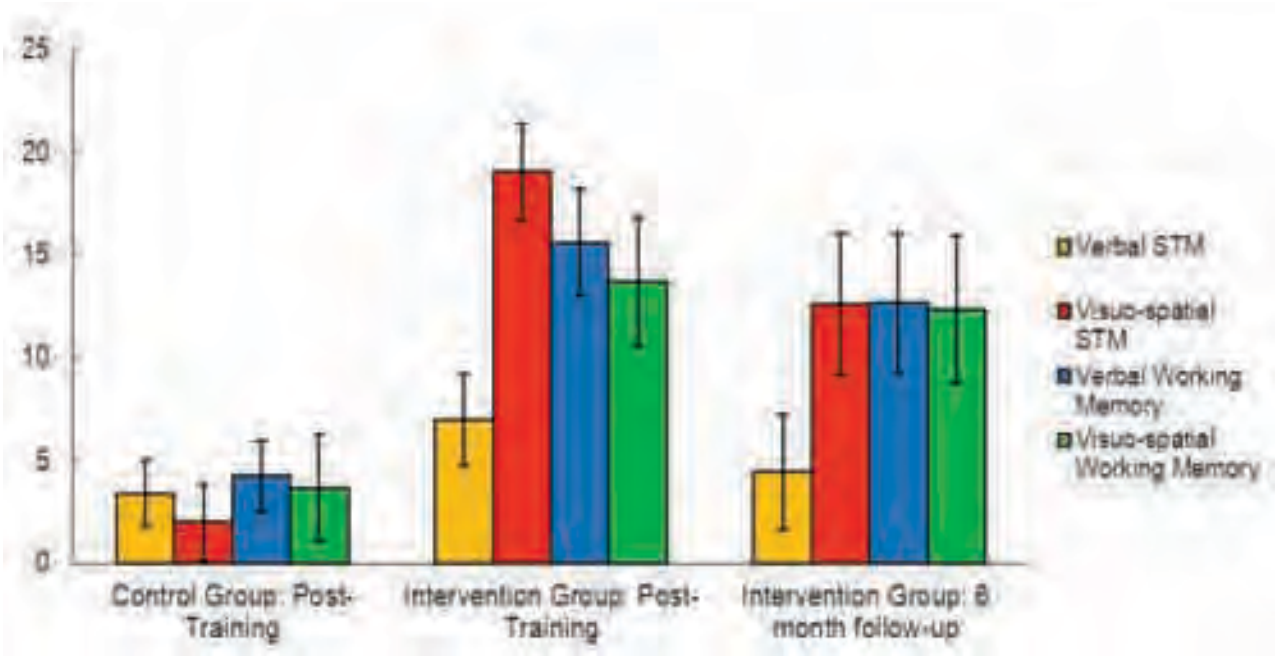
Given the heavy working memory demands of classroom instructions and activities, it is perhaps unsurprising that one of the key characteristics of children with working memory deficits is poor educational attainment (e.g. Gathercole et al., 2008). Learning is a step-by-step process that relies on the successful completion of individual learning activities for the accumulation of knowledge. Children with working memory impairments often fail in the classroom because the working memory loads of each activity exceed their capacities. When the working memory system fails, children forget what they are doing and this can lead to inattentive behaviour. The end result is frequent lost learning opportunities, and consequently slow rates of educational progress (Gathercole & Alloway, 2008).

Interventions

An increased awareness of the negative consequences of working memory difficulties among educational and health practitioners has augmented demand for targeted interventions over recent years. There are currently two approaches; the first focuses on accelerating learning for children with memory problems by adapting the child's environment, and the second attempts to target and train working memory function directly.

The classroom-based approach focuses on increasing teacher awareness of the warning signs of working memory failures and encouraging them to adapt their approach to teaching to reduce memory loads in the classroom. This can be achieved through breaking tasks and instructions down into smaller steps, re-presenting information, using memory aids and fostering an environment in which children feel able to ask if they have forgotten what they should be doing. It also promotes helping children with poor working memory to use strategies to overcome their cognitive weaknesses (see Gathercole & Alloway, 2008 for details). The extent to which the principles of this intervention are implemented predicts children's literacy and mathematical skills, and teachers are typically enthusiastic about the ways in which their understanding and practice has improved as a result of the intervention Specifically, teachers have commented that it is relatively easy to implement within existing curriculum

Figure 1 *Gains in short-term and working memory for children with poor working memory, from Holmes et al. 2009.*



Dr Joni Holmes Speaking at the 2012 Guild Conference

activities, that it enables them to understand that many task failures are the result of forgetting, and that children benefit from working within their own working memory limits with greater rates of success when the techniques are applied (Elliott, Gathercole, Alloway, Holmes & Kirkwood, 2010). The long-term benefits for learning are not yet known, but this approach offers a practical starting point for practitioners who are keen to support children with poor working memory.

An alternative approach to intervention is to try to improve working memory function directly through practice on working memory tasks. Various computerized training paradigms are available, all of which require individuals to train intensively for a continued period on tasks that adapt to match their current capacity limit. The nature of the training activities differs across programs, with some requiring practice on an array of working memory tasks (e.g. Cogmed, Klingberg et al., 2005) whilst others involve only one type of training task (e.g. N-back, Jaeggi, Buschkuehl, Jonides & Shah, 2011).

There is now substantial evidence that these programmes ameliorate working memory problems in childhood. Enhancements in memory have been found in children with poor working memory, ADHD and cochlear implants (Beck, Hanson, Puffenberger, Benninger & Benninger, 2010; Dunning, Holmes & Gathercole, 2012; Klingberg et al., 2005; Holmes, et al., 2009, 2010; Kronenberger, Pisoni, Henning, Colson & Hazzard, 2011 – see also Figure 2). In a randomised-controlled study, we have shown that improvements in verbal working memory in children with memory impairments are sustained 12 months after training without any additional intervention (Dunning et al., 2012). These training gains are associated with changes in neural activity in areas of the brain important for working memory function (Westerberg & Klingberg, 2007).

The extent to which these improvements in working memory benefit other skills and abilities is currently highly debated (see Klingberg, 2010, Shipstead, Redick & Engle, 2012 and Melby-Lervåg & Hulme, 2012). However, there is at least some preliminary evidence of accelerated learning following training, with significant improvements in maths scores reported several months after training for children with working memory impairments (Holmes et al., 2009) and improvements in reading comprehension reported post-training for children with Special Educational Needs (Dahlin, 2010). In a field trial just completed, we have shown that training administered at the class-level by teachers leads to robust gains in working memory and educationally significant gains in academic performance. Greater progress at school, measured by performance against national targets across the year of the intervention, was found for children with low achievement; in maths for children aged 9-11 years (both Year 5 and Year 6), and in English for children aged 10/11 only (Year 6) (Holmes & Gathercole, 2012).

Although these findings suggest training may have some benefits for academic outcomes, the field of cognitive training is very much in its infancy and we still know very little about how gains resulting from these training programs might, or might not, transfer to meaningful improvements in an individual's daily life. We may find, for example, that gains are mediated by the development of strategies that are specific to the training tasks, which children then fail to apply spontaneously in real-world situations.

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Rapid auditory processing deficit in dyslexia – an update

Dr Catherine Marshall psychologist, researcher and e-learning tutor for Dyslexia Action provides a topical update on rapid auditory processing in relation to dyslexia.

There is a consensus in research that the difficulties evident in dyslexia can be traced to a phonological deficit. An impairment in the awareness and/or processing of the sounds within words can account for difficulties in learning to read and spell, as well as poor nonword repetition, naming and phonological short term memory (See Snowling, 2000, for a review). The phonological deficit theory has useful practical implications for assessment and intervention of children with dyslexia – phonological skill can be tested easily (given sensitive tests), and evidence from intervention studies overwhelmingly supports the position that explicit instruction in phonological skills improves reading (see Cain, 2010 for a review).

The underlying cause of the phonological deficit in dyslexia is not well-understood. One prominent theory claims that there is a general impairment in processing non-speech sounds – *Rapid Auditory Processing: RAP* (Tallal, 1980). According to this theory, an impairment in processing brief, rapidly presented sounds will interfere with speech perception, which in turn will result in poorly specified phonological representations (Tallal, Miller, Jenkins & Merzenich, 1997).

However, the evidence for a RAP deficit in dyslexia is not clear. Typically, studies find that only a subset of children with dyslexia have difficulties with non-speech auditory processing tasks, and that these are not necessarily related to phonological impairments (Ramus, 2003). Our study (Marshall, Snowling & Bailey, 2001) identified a small sub-group of individuals with dyslexia who apparently had difficulty with a RAP task. Contrary to Tallal's theory, the phonological skills of these children were not worse than those who were unimpaired on the RAP task. This casts doubt on the premise that a RAP deficit has a causal effect on reading difficulties through its impact on phonological ability.

To understand why some children might find the RAP tasks problematic, and to understand how this may relate to dyslexia, it is important to consider the task demands. The original task used by Tallal (1980) involved children learning to associate a high tone and a low tone with separate buttons. The children then were required to repeat sequences of tones presented rapidly by pressing the appropriate buttons in the correct order. This task is demanding of attention, memory, sequencing, and decision making processes, so a weakness in any of these areas may result in a low score on the task (Ramus & Ahissar, in press). A low score on such a task is therefore not necessarily indicative of a RAP deficit, and should not be taken as evidence that a lower level auditory processing deficiency is at the root of that individual's phonological or reading difficulty.

It is likely that task demands interact with co-occurring difficulties within dyslexic samples. Our weak RAP subgroup (Marshall et al, 2001) were rated as being of higher hyperactivity by their teachers than those who were unimpaired on the task. It is possible that our subgroup had concomitant attention/hyperactivity difficulties, which made it difficult for them to cope with the demands of the RAP task, rather than a more basic processing deficit. Some studies have reported that only children with broader language as well as reading difficulties seem to have difficulty with RAP tasks (McArthur & Hogben, 2001). Potentially, a child with strong language skills would be more likely to apply a successful strategy to the task to facilitate performance, for example labelling the tones (e.g. high and low) to help them to remember the sequence (see Marshall et al, 2001). Conversely, a child with weak verbal skills may be less likely to apply this helpful strategy, which may result in a lower score.

Despite these concerns, and a lack of support in the literature for the RAP deficit theory, an intervention programme based on this theory has been developed as a commercially available programme marketed for children with developmental disorders (*Fast ForWord*). Genevieve McArthur has published work which questions the effects of training children to process rapidly presented sounds (McArthur, 2009). She analysed six studies in which children with developmental disorders were trained on an auditory programme (featuring nonspeech sounds or simple speech sounds). McArthur concluded that the training did improve children's performance on the auditory tasks; however there was little or no effect on reading, spoken language or attention. This suggests that all the training achieves is to make the children better at doing the auditory tasks. A recent meta-analysis by Strong, Torgerson, Torgerson and

Hulme (2011) concluded that there was no evidence that Fast ForWord was effective in treating children's reading or language difficulties. In contrast, interventions which combine structured reading instruction together with phoneme awareness have been shown by research to be effective, as well as being theoretically well-understood (Hatcher, Hulme & Ellis, 1994; Troia, 1999).

With a plethora of dyslexia interventions available, many of which claim to target underlying brain processes, it is important for practitioners to evaluate these carefully. When resources are scarce it is crucial to ensure that interventions that are given priority are those which are based on sound theory and careful research (see Dorothy Bishop's blog post "Neuroscientific interventions for dyslexia: red flags" for more information: deevybee.blogspot.co.uk/2012/02/neuroscientific-interventions-for.html).

Thus, the RAP theory does not provide a convincing case for a causal underlying impairment in dyslexia. The tasks typically used in these studies are cognitively demanding, so are not necessarily measuring basic auditory processing. Furthermore, it is likely that the demands of these tasks interact with co-occurring difficulties in attention and language in children with dyslexia. When evaluating an intervention for dyslexia it is important that the theory and methodology on which it is based are examined thoroughly.

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Multisensory approaches and the role they play in the remediation of dyslexic readers' difficulties

Caroline Hunt, the author of this article has successful completed the final year of the Postgraduate Diploma in Dyslexia and Literacy in 2012. Her full essay on this title received a commendation from the Board of Examiners and an award at this year's Guild Conference. A shortened version of her work is presented for readers of the Review[1].

A brief background to multisensory teaching/learning for dyslexic remediation

Montessori's Method (1912) describes a tactile link which was found to promote letter recognition for learning to read and write. However the development of multisensory remediation for dyslexic readers is generally attributed to the psychiatrist Samuel Orton, who, according to Chasty (1999), observed some very skilful teaching of functional English literacy to Chinese labourers by linking letter shapes and sounds with exaggerated handwriting movement patterns. Orton began to develop these ideas into principles/practices for teaching children with reading disabilities, incorporating the kinaesthetic tracing methods of Fernald (1943). Orton later worked with Gillingham to classify and structure the 44 distinct phonemes (speech sounds) found in English, in order to train teachers and compile published instructional manuals (Gillingham & Stillman, 1935). The development of these techniques continued (Gillingham & Stillman, 1956; Hickey, 1977), clearly demonstrating that the underlying principles were proving effective in the remediation of reading difficulties.

The Rose Report (2009), Brooks (2007) and Singleton (2009) all advocate specialist literacy intervention which is: multisensory; based on good phonics teaching explicitly linked to letters, sounds and contextual reading; and structured, cumulative and sequential learning.

A well implemented 'multisensory approach' refers to teaching and learning where the visual, auditory, kinaesthetic and tactile elements are explicitly, actively and interactively integrated (Singleton, 2009). This strengthens links between sensory stimuli to promote cross-modal processing of information: reinforcing strong modalities; improving weaker ones; and enabling grapheme-phoneme automaticity (Walker, 2000). These connections then need to become faster and stronger to provide a firm basis for higher-order reading skills (Adams, 1990).

Brain-imaging techniques have revealed fundamental differences between the neural pathways used by skilled readers and struggling readers (Hempenstall, 2006). Effortless word recognition results from secure internal representations of words (constructed through repeated accurate decoding until an exact replica of the word, its pronunciation, spelling and meaning are all intrinsically bound together). Once these internal representations are secure, a word can be recognised automatically and rapidly (in about 1/6th of a second). These skilled processes, dependent upon accurate phonological decoding skills, rely on areas in the left side of the brain.

In contrast, many struggling readers, whose phonological skills are poorer, have created compensatory and alternative neural pathways, mostly dependent on the visual centres in the right side of the brain. This means that they look at words as if they were 'pictures', thus making them more reliant on guessing: based on the first letter of the word or other recognised letter strings; using fuzzy representations of similar words; from the context; or relying on clues from illustrations.

Neuro-imaging also reveals biological changes in the brain's functional circuitry, linked with cognitive development in reading ability; thus providing evidence of brain plasticity (the formation of new neural connections) associated with learning behaviour (McCandliss, 2010). Remediation therefore depends on teaching productive reading strategies which develop the neural connections that most effectively promote reading development.

McGuiness (2011) reasons that cross-modal processing, which links neural circuits, doubles the speed of learning because different parts of the brain act in tandem. Therefore teaching phonemes (oral language) linked to letters (visual symbols) and reinforced with writing (kinaesthetic response) connects new neural pathways between:

(i) auditory cortex language areas of the medial left hemisphere (phonemic analysis/synthesis)
(ii) posterior occipital regions of the brain (responsible for visual pattern analysis) and
(iii) left hemisphere superior motor gyrus (fine motor processing systems).

Multisensory approaches are usually also active, interactive, memorable, motivating

[1] The full version of the article will be made available to Guild members, with Caroline's permission, in the Dyslexia Action online library during Autumn 2012

and rewarding, so this addresses other deficits, such as attention, concentration and memory (including long-term retention and retrieval of information), which are often associated with dyslexia.

Research evidence supporting multisensory approaches

Hulme (1981) conducted a series of controlled experiments to determine the effect of multisensory tracing (simultaneously forming and saying letters/words) on separate aspects of reading difficulties such as memory, visual recognition, sequencing and visual-verbal paired associate learning (grapheme-phoneme correspondence). He concluded that this research contributed to evidence for effective storage/integration of information from different sensory modalities and therefore supported the efficacy of multisensory tracing methods to address reading deficits.

Bradley and Bryant (1985) compared the effect of sound categorisation training (with and without plastic letters) with semantic categorisation training (a placebo control group) and 'no treatment' (a further control group). Only the group who used plastic letters made significantly more progress than the control groups. This research demonstrated the role of multisensory links in supporting the development of explicit connections between letters, letter groups and sounds to aid reading and spelling.

In 2007, Brooks wrote his third meta-analysis of intervention schemes used in the UK to boost the reading of lower-achieving pupils. *Phono-Graphix™*, a multisensory programme focussing on phonological skills and explicit sound-symbol correspondences (engaging kinaesthetic/auditory/visual systems simultaneously), gave the largest ratio gain for reading of all interventions reviewed.

One difficulty with analysing research-based evidence is that it is difficult to isolate the 'multisensory' aspect from other contributing or 'confounding' factors. However Thorpe and Borden (1985) conducted a series of single-subject experiments to examine the effect of adding multisensory techniques to a reading programme and concluded that word-reading accuracy was improved. This was then replicated by Campbell, Cooke & Helf (2008) who found that adding multisensory components improved the decoding skills of a group of non-responders who had already received more than 2 years of supplemental (non-multisensory) instruction. Although both these studies were small in size and short in duration, they do offer some consensus on the potential role of the multisensory element.

According to Ritchey and Goeke (2006), much of the research evidence cited in favour of multisensory techniques can be challenged for being anecdotal or small-scale or based on research methodologies with significant flaws when it comes to statistical analysis and comparison. The International Dyslexia Association website (IDA, 2011) currently invites donations to carry out much-needed research to establish or debunk the efficacy of the multisensory component of specialist intervention. Their 'Multisensory Research Grant Program' is described as a "bold and challenging initiative" to avoid intense criticism for advocating and perpetuating a scientifically unfounded approach, which is currently fundamentally based on clinical intuition and testimony (even though this is 'authoritative and compelling').

The evidence against multisensory interventions

If the opposite of multisensory is 'uni-sensory', what evidence do we have about the efficacy of uni-sensory intervention? Irlen (2005) advocates screening for visual perceptual disorders, often experienced by dyslexics. Tinted overlays, or altering the contrast between text/background may have dramatic effects on an individual's ability to process text, although reading instruction will usually also be needed. The acoustically modified speech drills in the computer program *Fast ForWord®* simplify auditory discrimination tasks to help learners develop auditory skills related to phonological understanding/awareness. However, other elements have also been included in the program to cover the 'five essential components of reading instruction' as established by the National Reading Panel (2000). Therefore both of these methods may help reduce the effect of single-sensory deficits, but will usually be used alongside multisensory reading instruction.

Lundberg, Olofsson and Wall (1980) found that oral phonological training (auditory and oral-kinaesthetic) could help prepare children for reading acquisition. However any reading gains did not endure unless the programme also included grapheme-phoneme correspondences and explicit orthographic teaching (Bradley & Bryant, 1983). Hulme (1981) concluded that tracing around words (manual kinaesthetic) did not lead to improved reading if there was no simultaneous naming (no multisensory link).

Good classroom teaching alone does not enable children with literacy difficulties to catch up with their peers (Brooks, 2007); it could be argued that this is because these techniques do not explicitly link together sensory modalities. There seems to be little evidence that uni-sensory approaches alone can remediate dyslexic difficulties.

However multisensory interventions are not necessarily advantageous per se: the **content** of the intervention is also critically important. Ritchey and Goeke (2006) found that some US programmes did not address the five essential components of reading instruction (National Reading Panel, 2000).

Nevertheless, even an 'effective' and 'well-founded' multisensory programme may not work for students with the most severe difficulties (Alexander & Slinger-Constant, 2004; Rose, 2009; Snowling & Hulme, 2011). Brooks (2007) describes success with these children as 'elusive'. Specialist teachers must therefore be knowledgeable, skilful and relentless in their search for suitable strategies and approaches (Torgesen et al, 2001). New insights into critical questions about learning are needed to establish the contribution played by multisensory techniques and to ascertain why some forms of educational scaffolding experiences are dramatically effective whereas others have little or no effect (McCandliss, 2010).

Summary

In conclusion, it is proposed that the original statement should be amended as follows:

"Multisensory approaches can apparently play a key role in the implementation of effective literacy programs to remediate dyslexic readers' difficulties. However, in order to be successful, these interventions must include the essential components for remediating literacy (informed by solid research-based evidence) and must also, through skilled and specialist teaching, and continuous assessment and observation, be formulated around the specific needs and unique dyslexic profile of each individual learner."

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Older adults with dyslexia in the workplace, or the beginnings of cognitive decline? - emerging implications for assessment

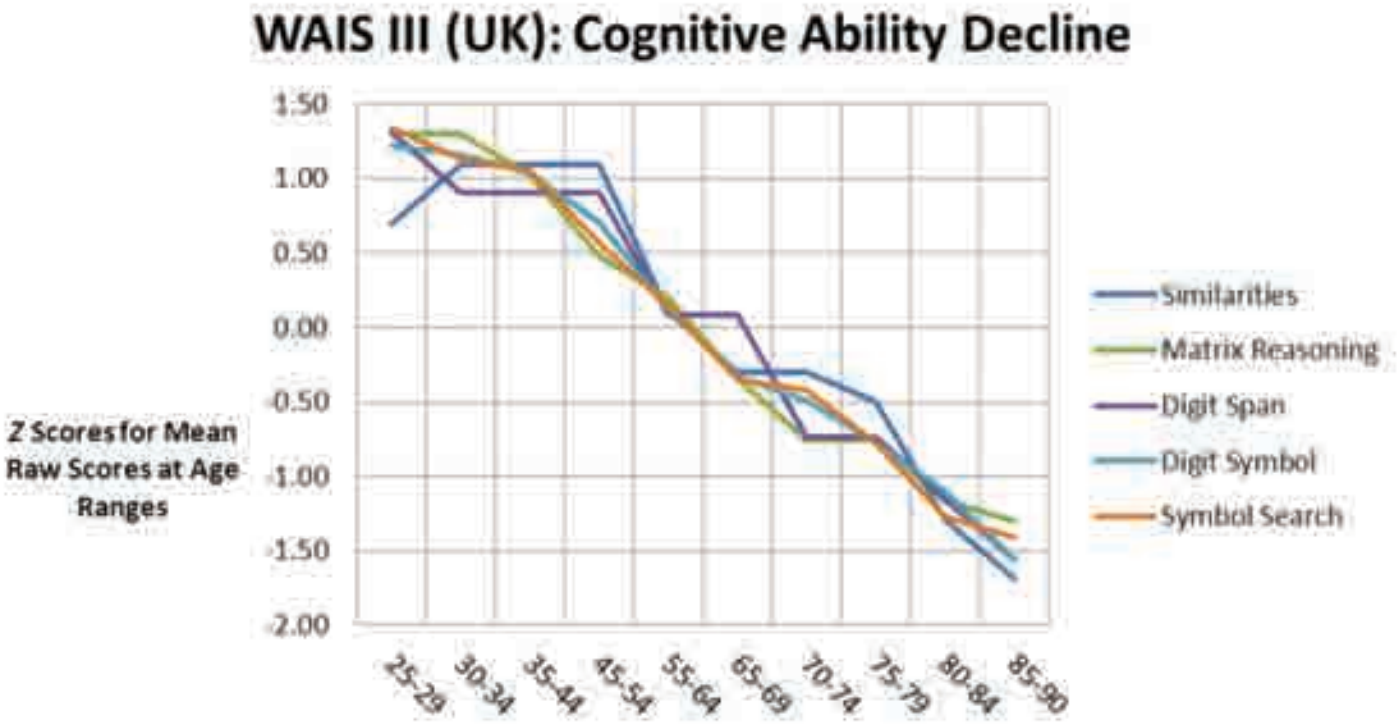
Dr. Barry Johnson

Dr. Barry Johnson is Principal Educational Psychologist and Head of Assessment Services for Dyslexia Action and **Dr. Gareth Hagger-Johnson** is a Senior Research Associate in the Department of Epidemiology and Public Health, University College London. In this article, they highlight issues relating to learning difficulties reported by adults that may relate to decline of their cognitive abilities.

Introduction

Over recent years, Dyslexia Action has experienced a steady increase in the number of requests for dyslexia assessments of adults in the workplace. In 2010-11, approximately 600 (10% of all referrals) were for adults over the age of 30 years. This is probably due to the growing awareness of dyslexia as a disability and having legal consequences for employment, requiring reasonable adjustments in the workplace. Because of the age of these adults, however, their reported literacy difficulties may not necessarily comprise of the classic dyslexic-type found in children and young people.

It may seem curious that older adults start to report experiencing difficulties with literacy tasks after years of apparently successful employment, often with histories of early academic success and no history of identified learning difficulties. There needs to be awareness, however, that such people may be suffering from some form of cognitive decline. They may additionally construct their difficulties as attributable to dyslexia because they find this more psychologically acceptable than the alternative - cognitive decline. Cognitive decline may produce fear, denial and stigmatisation.



(Wechsler Adult Intelligence Scale, Third Edition (WAIS-III). Copyright © 1997 NCS Pearson, Inc. Reproduced with permission. All rights reserved.)

Dr. Gareth Hagger-Johnson

Cognitive Decline

Psychometric standard scores are concerned with normative comparisons with the functioning of people within certain narrow age ranges. As such they provide only relative information on the status of an individual's cognitive profile. If a client has a standard score of 100 at age 40 this does not mean that she performed with the 'same' competence as a 12-year-old child with the same standard score on the same test. These two people's scores simply reflect the fact that they scored at an average level for their chronological age in comparison to samples of their similar-aged peers.

In *absolute* terms, cognitive ability grows as children develop but eventually declines over the adult age range. Although this is generally understood, the normal process of decline of intellectual functioning is often under-estimated, both for the amount of the decline and its start-point, which can be as young as 30 (Braverman 2009). These features can be shown graphically by plotting the z scores for the raw scores that equate with average standard scores across age-range bands in psychometric tests. The chart (below left) is derived from the normative data within the Wechsler Adult Intelligence Scale III (UK) (NCS Pearson 1997).

The five sub-tests consist of one test of fluid reasoning (Matrix Reasoning), one test of crystallised intelligence (Similarities), one tests of working memory (Digit Span) and two tests of Speed of Information Processing (Digit Symbol and Symbol Search).

It is well known that types of cognitive abilities differ with regard to their rate of decline over the lifespan. Information processing speed and working memory are particularly susceptible (Deary et al. 2009). Note the age of the starts of the declines of the scores for the WAIS III (UK). Some start within the 25-29 age range and some appear to start to have significant decline with the 45-54 age range. Decline in reasoning and memory has also been observed from age 45 in longitudinal cohort studies (Singh-Manoux et al., 2012).

No wonder then, that it is uncommon to see many older people in jobs which require speedy application of cognitive problem-solving and decision making (fluid reasoning) such as financial trading, air-traffic control, fighter pilot, etc. Relatedly, one factor that may shorten the professional sportsperson's career is the start of the decline of those abilities that are associated with speeds of perceptual reasoning and processing. Research is also showing that children of lower than average ability are more susceptible to decline in cognitive ability as they get older (Deary et al. 1996, Richards, Shipley, Fuhrer & Wadsworth, 2004) and that cognitive ability decline can be associated with health problems such as cardiovascular disease (Knopman et al. 2001). Indeed, measures of cognitive ability are increasingly being interpreted as criteria of what can best be described as a neurological 'cognitive reserve' that is associated with a range of measures of physical well-being (Richards & Deary 2005). Specialised assessors need to be aware therefore that some susceptible adults may be showing evidence of significant decline on measures of cognitive ability and at relatively early ages.

The frequency of reported learning difficulties may well increase in times of economic recession and with the removal of the statutory pensionable age where the older employee feels that she cannot retire because of financial or other life-choice considerations. Adults' apparent learning difficulties in the workplace may not be causally related to dyslexia per se but rather to the lifespan process and, in certain cases, susceptibility to cognitive deterioration and related health issues (Knopman et al 2001). Relatively high levels of literacy appear to buffer the effects of aging on cognitive decline (Manley et al. 2003) although there is some evidence that literacy skills also generally decline over the lifespan from age 30 (Willms & Murray 2007). Concern about apparently deteriorating literacy levels or cognitive fatigue in a middle-aged adult within professional occupations needs careful attention and reflection. This is particularly so if there are co-existing physical illnesses. Deriving baseline and trend data in these situations is problematic. For this reason, access to co-normed tests of ability and attainment that cover the lifespan age will be needed in the future, particularly in the case of adults in those age ranges sensitive to cognitive deterioration and time-lines relevant to retirement and re-deployment. It will be prudent for adults who are constructing their difficulties as being caused by dyslexia to have review assessments of their core cognitive abilities. These should include components of fluid reasoning, crystallised intelligence, working memory and speed of information processing. Assessors will also need to be sensitive to the feelings and anxieties of their clients when apparent cognitive decline is a focus of discussion: patients' denial of their medical circumstances has been well known in the medical arena for some time (Livneh 2009).

Cognitive decline is often the most feared aspect of aging (Deary et al. 2009). The construction of difficulties in the workplace as being attributable to dyslexia may be psychologically acceptable to the

client, whether they are unaware of, or in denial of, cognitive decline but this inaccurate attribution may lead to an incorrect diagnosis and indeed delay important medical assessment and intervention such as access to memory clinics (Thompson 2004). Re-referral to appropriate medical assessment and support will also be required in cases of identified onset of significant cognitive decline and pre-referral forms should be designed to trap useful information about physical health and reported cognitive fatigue. Contextual assessment in the workplace will need to attend carefully to those aspects of the client's work activities that load heavily on speed of processing and memory application as well as the appraisal of trend perspectives of the client's competencies over the years.

It is possible that cognitive decline in some cases may be accompanied by corresponding decline in literacy skills. If this is found to be the case, then the specialist assessor will probably need to appraise their theoretical preferences for assessment platforms. It should not be assumed that current models employed within the areas of evolving cognition in children and young people are the best ones. For example, given that speed of information processing has been identified as a sensitive area of cognitive decline, it is possible that it may be useful to reconsider theories such as the Double-Deficit Theory (Wolf & Bowers 1999) with reference not to literacy acquisition, but to the impact of slower speed of processing on comprehension and other aspects of higher-order literacy skills. In addition, the research area of the elderly and literacy skills loss (Wilson et al 2009, Thompson 2004) might be worth exploring with a view to establishing possible links with earlier mild cognitive decline. It is possible such research might eventually lead to the phenomenon of proven and significant decline in literacy skills in mid-life to be reinterpreted. Such decline could represent a new and interesting form of acquired dyslexia, but which is part and parcel of cognitive aging.

The views expressed in this article are personal and do not reflect the policies of Dyslexia Action or University College London.

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Assessment Notes

Jacky Ridsdale, Senior Psychologist for Dyslexia Action presents notes on the Anglicisation of words in the WRIT Test.

Psychological Assessment Resources (PAR) have been kind enough to allow us to suggest the following amendments to items in the WRIT:

The WRIT is an American test. The cultural similarities between the UK and the USA are deemed such that it is acceptable for use on the British population. There are however one or two clear americanisations. When these occur late on in a subtest one may assume sufficient sophistication on the part of the examinee to be able to understand them. Some however occur in the very early stages and it would seem appropriate in this case to substitute 'English' words, as follows:

Verbal Analogies:
Item 4 – replace 'mosquito' with 'wasp'.
Item 7 – replace 'turtle' with 'tortoise' *
Item 25 – replace 'lumber' with 'timber'.
Item 32 – accept 'tea' or 'beer' as well as 'wine'.

Vocabulary:
Item 17 – replace 'gasoline' with 'petrol'.

NB In the Vocabulary test the word 'mosquito' is retained as it occurs from the age 13-year level, whereas in the Verbal Analogies it is substituted as it occurs at the 4-7 year level. The word 'airplane' just needs pronouncing as 'aeroplane'.

It is of course always difficult changing any items of a standardised test because of the potential impact on the norms. In this case however my view is that changing the items actually brings them more in line, in terms of difficulty, with those used in the sample population, and therefore prevents distortion of the results.

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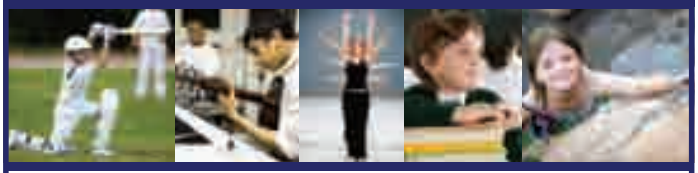

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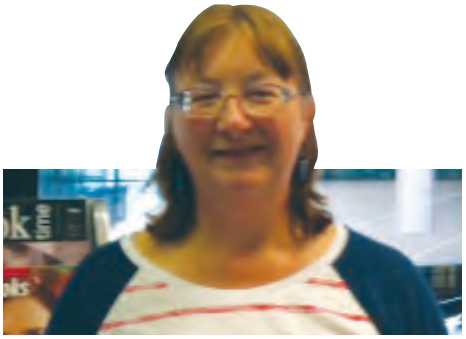
Inside **Prison Libraries**



Michele Vassar is the Librarian at HMP/YOI, Portland, Dorset a Young Offender Institution. She provides an insight into the services Prison Libraries provide and the benefits they can bring to prisoners with dyslexia.

Every prison has to have a library and its services are set out in Prison Service Instruction (PSI) 45/2011. This quotes the Prison Rules:
"A library shall be provided in every prison and, subject to any directions of the Secretary of State, every prisoner shall be allowed to have library books and to exchange them." [1]

In most prisons, the library service is contracted out to the local authority so, for example, Dorset Libraries provide a service to the four prisons in the county. As much as possible the library should run just like a branch library but each is very different due to the very varied nature of prison regimes. I thought that prisons would all be alike but this is not at all the case; they are much more like schools where the character of the Head teacher determines the nature of the school. In prisons, the character of the No. 1 Governor is the determining factor and the whole way the prison works can change if a new Governor takes over.

Prisoners are meant to have a weekly library visit of about 30 minutes but this is not always possible. In many establishments prisoners have to be escorted to and from the library at specific times. At Portland we have a timetable for each Wing, workshop and education class during the 'core day' of 08.15 to11.15 and 13.30 to 16.15 when prisoners are at work. In some adult prisons the busiest times may be in the evenings or at weekends when the prisoners are not at work. In other establishments prisoners are unlocked all day and can choose when to visit the library. One of the most common problems faced by librarians is that there may be no staff to escort prisoners to the library so they will have

no customers. There may also be shutdowns (when prisoners are kept in their cells) for many reasons: searching cells, an incident, staff training, special events – and this will affect library access.

Prison libraries supply a variety of resources: some provide books and audiobooks whilst others may also offer newspapers and magazines, music CDs, Playstation games, board games or DVDs. Prisoners are not allowed internet access and staff may not always have an internet computer in the library. Stock is selected by the librarian for the users' interests (and remember, users will be either all male or all female) and with more 'true crime' books than is the norm in public libraries. At Portland, the Top 20 fiction books are either 'urban reads' (US books about urban life - girls, guns and gangs with titles such as 'Thugs and the women who love them') Harry Potter or The Simpsons whilst popular non-fiction topics are 'true crime',

biographies, weight training, graffiti art and football. Most libraries will also stock books for emergent readers which might include the Quick Reads series or those published by Barrington Stoke. Research suggests that 48% of prisoners have a reading age below 11.[2] Restrictions on what can be stocked varies in each prison – there is no overall rule on this. I cannot stock books on tattoos, martial arts or weapons or 'gangsta rap' CDs for security reasons but I know colleagues who do stock all these topics.

In my experience, the best way to encourage reluctant readers is to provide them with books they want to read, so a well-targeted stock is most important. I don't mind that what they're reading is not great literature as long as they're reading and I am continually surprised by how often a man will tell me that the book he's just finished is the first book he's ever read. Prisoners do have quite a lot of time 'banged up' in their cells, and even the daily delights of EastEnders can pall after a time, so they will then look for books to entertain them. Prisoners who have misbehaved may be put on the Basic regime with no in-cell TV, CD player or radio and they are often desperate for books to while away the long evenings.

There are various reading promotion schemes often organised by the library in addition to the literacy classes run by the Education Department:

- 6 Book Challenge
- This year almost 100 prisons ran the Reading Agencies' '6 Book Challenge' scheme to encourage less confident readers to read 6 books and record them in a reading diary[3]. At Portland this year we've had 75 prisoners and 23 staff register for the scheme and 27 prisoners and 10 staff complete it. Some librarians run reading groups or in-house book promotions or have an author to visit.
- National Prison Radio Book Club
- National Prison Radio[4] is being installed in all prisons and one of the regular weekly slots is a book club. It's too soon to know how successful this will be at present.
- English PEN author visits
- English PEN is a charity that funds author visits to prisons[5] and supplies copies of the author's books for prisoners to read beforehand.

A 2005 report into hidden disabilities in prisoners[6] found that 20% had dyslexia, dyspraxia or dyscalculia and a further 32% had literacy difficulties due to social or experiential factors. I conducted a straw poll amongst eight of my colleagues for this article to find out what help was available in their prisons. Half said that prisoners were not formally assessed for dyslexia on arrival and half that they were. If prisoners refer themselves as dyslexic they might be offered some help but it varies in each prison. Prisoners might also be referred for help by teachers, wing staff or IAG (Information, Advice and Guidance) staff, who see prisoners on induction. It seems that the provision of any kind of screening and what help is available depends very much on whoever runs the Education department. Where they are interested in this issue and 'on the ball' then something will be put in place. Some examples of the support on offer in the prisons I polled include:

- A 'spellings skills' course for those with dyslexia
- Individual help from a dyslexia-trained teacher
- Dyslexia support classes from a trained teacher
- Access to specialist computer programmes such as LADS (Lucid Adults Dyslexia Screening)
- Dyslexia awareness workshops for staff
- Checklist of characteristics to aid identification of dyslexia given to teachers

There are also schemes to help prisoners learn to read which may be offered to prisoners with dyslexia. The most well known is the Shannon Trust's Toe-by-Toe (TBT) scheme[7] which runs nationally in schools, workplaces and prisons. Each learner works one-to-one with a trained prisoner mentor for 15-20 minute sessions, three or four times a week. They use the TBT red book which is a very structured, phonics approach to reading that seems to be effective.

> **One motivation for prisoners learning to read is if they have their own children and they want to be able to read to them.**

One motivation for prisoners learning to read is if they have their own children and they want to be able to read to them. There are a number of schemes that help maintain contact between prisoners and their children through reading a bedtime story: Storybook Dads/ Storybook Mums[8] (developed at HMP Dartmoor) and The Big Bookshare[9] (Reading Agency) are the main ones. In each, the prisoner records a story onto a CD which is edited for mistakes, music and sound effects are added then the CD is sent to the child with a message from the parent. In The Big Bookshare the book being read is also sent. Some prisons are now videoing the prisoner reading a story and sending a DVD rather than a CD. Prisoners are also encouraged to read or learn with their children at family visits or family learning days held in some prisons.

With thanks to colleagues at HMP Bronzefield, HMP Dorchester, HMP Gloucester, HMP Guy's Marsh, HMP Haverigg, HMP Maidstone and Canterbury, HMP Wormwood Scrubs and HMP/YOI Portland.

References

1 The Prison Rules – Prison Service Order 2000

2. Factsheet – Education in prisons by Lara Natale for CIVITAS (2010) available online at http://www.civitas.org.uk/crime/factsheet-EducationinPrisons.pdf

3 The Six Book Challenge website News section at http://sixbookchallenge.org.uk/news/staffordshire-prisons-inspired/

4 National Prison Radio is provided by the Prison Radio Association. Their website is http://www.prisonradioassociation.org/ and the book club information is at http://www.prisonradioassociation.org/?page_id=1423

5. English PEN is a charity that works to promote freedom of expression. Their prison work information is at http://www.englishpen.org/learning/prisons/

6. The Incidence of hidden disabilities in the prison population by Dr John Rack, The Dyslexia Institute (March 2005) available online at http://www.dyslexiaaction.org.uk/helping-probation-and-prison-services/ea14be00-7f01-41c9-8aa4-39d6966d079c

7 The Shannon Trust fund the Toe by Toe scheme in prisons. Their website is at http://www.shannontrust.org.uk/

8. Storybook Dads/ Mums website is at http://www.storybookdads.org.uk/

9. The Big Bookshare is a project run by the Reading Agency and funded by the Paul Hamlyn Foundation. Information is at http://readingagency.org.uk/children/big-book-share/

Online corpora for literacy teachers: what is a corpus and how to use it

The online corpus is probably one of the most underused tools in the literacy teaching profession. Dominik Lukeš demonstrates how the use of a corpus can be of great benefit both for teachers and their learners and shows how this can potentially break down the barrier between language research and language practice.

What is a corpus: A brief definition

A corpus is one of those things that is easy to understand but can be difficult to describe. In short, it is a very large electronic collection of samples from a language that tries to be as representative as possible and/or a comprehensive sampling of the language. A corpus has a search interface that makes it possible to find out about current and historical language usage of words and grammatical patterns. The search makes it possible to sort results by frequency or genre (such as children's literature, journalism, academic writing or spoken language).

With a corpus, researchers or teachers can make statements about language that are no longer guesses based on intuition or personal feelings about how people should speak. Instead, we can now make statements about how people do actually use language in different contexts. Most modern descriptive grammars and dictionaries of English are in part or in full based on evidence from a corpus.

A brief history of corpus use

The first electronic corpus was made in the 1960s at Brown University. It provided the first computer generated quantitative data about English and served as the basis of the American Heritage Dictionary. Other dictionary and grammar publishers followed suit but the compilation and use of corpora remained a very specialist and expensive affair until the advent of the internet and electronic publishing in the 1990s. This saw amongst others the publication of the British National Corpus (BNC) which is now available online. Today, corpora exist for most languages with a written culture.

The Brown corpus consisted of 500 samples of 2,000 words each, making it a total of 1 million word tokens.
The BNC had 100 million in 1994. The most comprehensive freely available corpus, the Corpus of Contemporary American English (COCA), has 425 million words and is still growing. Some private corpora such as the Oxford corpus have over 1 billion words.

What is inside a corpus?

In order to be as representative as possible, the samples comprising a corpus must be selected from different contexts of language use. In a general corpus, there will be samples of journalism, academic writing, fiction, non-fiction as well as some spoken language. Samples that clearly belong to a dialect or the speech of a social group such as youth slang will probably be excluded unless they are quoted in one of the other samples. There are also specialized corpora that will capture just the speech of a particular group and bilingual corpora that collect translations. Some corpora strive to be more comprehensive rather than representative. For example, a historical corpus may contain all the texts available of a given period. Or the TIME corpus contains everything ever published in Time magazine. A web search engine is a corpus of a kind but the ordering of results is not a reliable indicator of representativeness. It can be particularly useful for confirming the existence of extremely rare expressions or misspellings.

Using a corpus: COCA: The best tool for teachers

All the examples below will refer to the particular interface used by the Corpus of Contemporary American English (COCA). This is the tool that all literacy teachers should become familiar with; it is completely free to use and has a user-friendly interface. (**Note**: Free registration is required for frequent users.)

The same interface is used to search multiple collections. Apart from COCA itself, these include a collection of all the issues of TIME magazine, a historical corpus of American English (COHA), smaller corpora of Spanish and Portuguese, as well as the British National Corpus (BNC), which however only contains material up to 1993.

These can all be accessed via www.americancorpus.org. COCA was created and is maintained by Mark Davies of Birgham Young University, an institution with a long tradition of language research. In 2012, COCA introduced a new tool www.wordandphrase.info that makes it easy to analyse the frequency of words and phrases in a text.

Basics of corpus use

Knowing how to use a corpus really means knowing how to search the collection to get answers to questions about language.

Good questions to ask of a corpus

The sorts of questions that a corpus search can answer are:

- What are the most frequent uses of a word X?
- Is word or phrase X more frequent than word or phrase Y (for example different spellings of the same word)
- Are there any five letter words ending in -ough?
- What are all the words beginning with ‘t’ and ending with ‘y’.
- What is the most common context of word X?
- Is a word more common as a noun or as a verb?
- How has the use of a word developed over the years?

All of these questions are impossible or extremely difficult based simply on intuition or recollection.

Search Language

To get answers to the questions above, we need to know how to use two wildcard characters: * and ?

Asterisks (*)

The symbol * stands for any number of characters. Thus searching for c*y will find ‘city’, ‘country’, ‘company’, ‘centrally’, ‘carry’ and several hundred such words sorted by their frequency. However, you may want to find only words that are the same as ‘city’ in length. And that’s when the second wildcard character ? comes in handy.

COMPANY	39790
COUNTRY	31414
CITY	22898
COMMUNITY	22897
CENTURY	19484
CERTAINLY	18114

COCA listing of the search for c*

Question mark (?)

The wildcard ? is used to stand for exactly 1 character. So searching for ‘c?y’ only returns 2 real words ‘cry’ and ‘coy’ and some acronyms from a total of 17 results. If we wanted to find out how many words there were similar to city, we would search for ‘c??y’ to find out that there are only 3 more words like it ‘copy’, ‘clay’, and ‘cozy’ along with some proper names like ‘Cory’ or ‘Cody’ and many more acronyms as well as some misspellings giving us a total of 64 results.

COMPANY	39790
COUNTRY	31414
CITY	22898
COMMUNITY	22897
CENTURY	19484
CERTAINLY	18114

COCA listing of the search for c??y

Lemmas

Another thing we can search for is lemmas which are indicated by putting square brackets [ ] around a word. Lemmas are the basic forms that are left over after all the inflection endings have been stripped away. Searching for a lemma will return all the inflected forms of the word. For example, searching for [run] will return run, running, ran, and runs. These are all the possible forms of a verb. But searching for [running], will return only running and runnings because running is a noun.

Part of speech tags

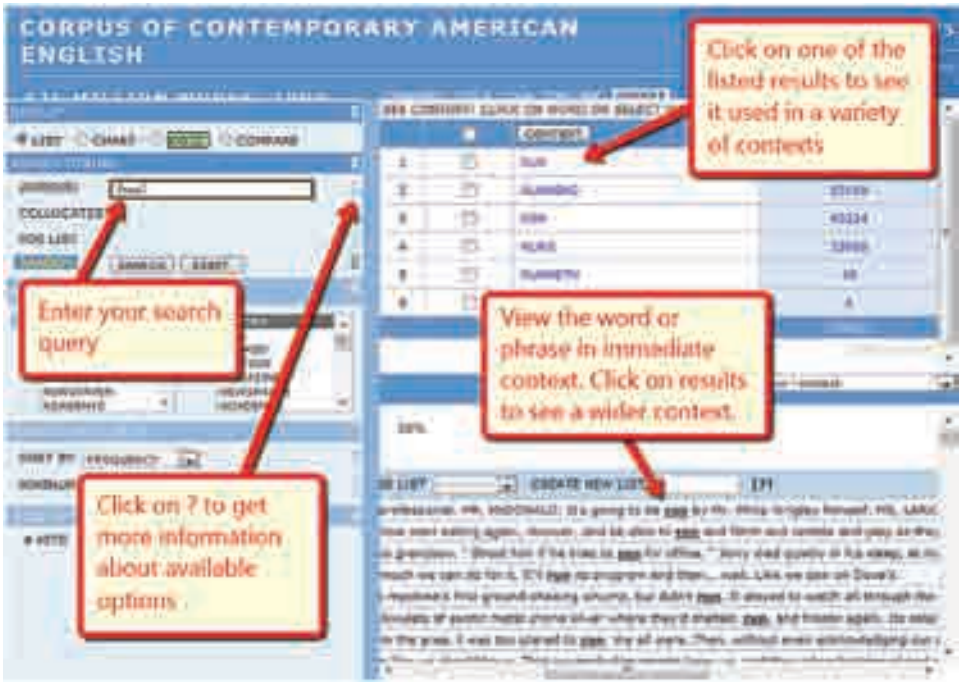
In COCA (as in many others but not all corpora), all words are tagged as to their part of speech. This is done by machines so it is far from perfect but it makes searching for some words much more accurate. Tags are indicated by [POS] where you substitute the appropriate code for POS. For instance, searching for [run].[n*] will only return uses of ‘run’ as a noun - for instance “he was on the run”.

Idioms and Phrases

All of the above can be combined to search for phrases. For example, we may be interested what other things it can rain other than cats and docs. Searching ‘rain.[v] [n*]’ we find that it can also rain men, fire, blows, death, bombs, glass, terror, etc. The search query asks: find all the cases where the word ‘rain’ is followed by a noun. The word ‘rain’ can be in any form provided it is used as a verb.

Other search functions

COCA offers many other search functions including synonyms, alternatives, etc. They can be found in the help section on the COCA website.


CORPUS OF CONTEMPORARY AMERICAN ENGLISH
Click on one of the listed results to see it used in a variety of contexts
Enter your search query
View the word or phrase in immediate context. Click on results to see a wider context.
Click on ? to get more information about available options

Overview of the COCA search interface

Views

The results of a corpus search are only useful when they can be quickly interpreted. For this, they can be displayed in different views.

Concordance

Concordance is basically a list of all the word forms with references to their contexts and details of frequencies. In COCA, the concordance view is the list of results we see when we search for a query like c??y. When you click on a word form listed in a concordance, you will see a simple KWIC view.

KWIC

KWIC (Key-Word In Context) is the most powerful way of viewing corpus results. As its name suggests, it shows the searched word or phrase in as many contexts as possible at once. This allows the user (researcher, teacher or student) to gain a quick overview of the meaning or usage rules.

ithmood , has died after a hit and	run accident	at Smethwick in the West Midlands . Hijack en
Firthmoor , Darlington , and has	run playgroups	at Staindrop and Gainford . 30 years of
ipper Martyn Moxon 's offer of a	run chase	at the start of a final day which began 75 minu
in studio Meanwhile farmers who	run tourist	attractions have got together to bring more
ub-divide the list of modules and	run Update	Baseline for each portion . Message severity
nined the way British intelligence	ran agent	Brian Nelson : Lethal Force tested the suspicio
o look after themselves . And we	run purpose	built flats (the world 's first) for those able
vards them , and found two trails	running side	by side through the sand . The one on the left
r some time the two systems will	run side	by side [] A number of sites are holding the SA
Birmingham police officer , also	ran companies	called Contractraven and Pine Rigg , which al
80486 and the MIPS processors	run code	cooperatively [] bringing our same ray trace
because it does not immediately	run Microsoft	Corp software [] Becauseof the raging persona
nd the DEC Alpha AXP RISC and	running Microsoft	Corp Windows NT at the Hannover CeBit show
r Islington , North (Mr. Corbyn)	run Islington	council ? They specialise in squalor ; they do
ems Inc and personal computers	running Santa	Cruz Operation Inc Unix System V.3.2 , Bull s
ction , they tend to be very short	run supply	elasticities tend to be very high in those type
is an extremely friendly , family	run hotel	exclusive to Club 18-30 . It offers excellent

A KWIC View of the query [run] [n*] (any form of the word 'run' followed by any noun)

Why use a corpus?

There are many uses to which a teacher can put a corpus to help with their everyday work. This could mean help with the most routine tasks such as creating spelling worksheets or more complex activities such as word games ('cheating' at crosswords or scrabble has also been suggested). A corpus can also substitute for a dictionary, where a KWIC view can often give a better idea of a word's meaning and use than a stilted dictionary definition.

Teachers can also use corpora to involve their students in a more active approach to language. Rather than presenting rules or definitions, they let students perform their own searches and discover underlying principles.

Working with a corpus opens up many opportunities for the literacy teacher however there are also some caveats. Perhaps the most exciting of these is the study of collocations which reveals that no words make sense without consideration of the context of their use. These will be explored in the follow up (Part 2) of this article.

Readings

Several recent books introducing the corpus to teachers are available:

O'Keeffe, A., McCarthy, M., & Carter, R. (2007). *From corpus to classroom : language use and language teaching*. Cambridge; New York: Cambridge University Press.

Reppen, R. (2010). *Using corpora in the language classroom*. New York: Cambridge University Press.

To uncover the power of what we can find out about language with a corpus in our arsenal Stubbs is still unsurpassed:

Stubbs, M. (2002). *Words and phrases: corpus studies of lexical semantics*. Oxford ; Malden, MA: Blackwell Publishers.

[1] *See Autumn Edition 2012 for the second part of this article.*

The Literacy and Dyslexia-SpLD Professional Development Framework: structuring a twilight INSET session

This article is based on the keynote speech that Dr Amelia Roberts presented at the Dyslexia Guild Summer Conference 2012 and uses as an example, supporting teachers using the Year 1 Phonics Screening Check.

Introduction

'The purpose of the Year 1 phonics screening check is to confirm whether individual pupils have learnt phonic decoding to an appropriate standard.' (DfE 2012)
Summer term 2012 was the first mandatory, nationwide screening of the controversial 'Phonics Screening Check', consisting of twenty words, real and imaginary with an escalating level of difficulty. 'Nonsense' words were given with a picture of an imaginary animal, to encourage children not to try and guess a real word, but to work out the name of the imaginary animal by decoding the word syllable by syllable.

Shifting the focus from analytic phonics towards synthetic phonics

The Schools White Paper, **'The Importance of Teaching'**, published in November 2010 advocated the teaching of systematic synthetic phonics. It was recommended as the best method for teaching reading, and funding was provided for high-quality training and classroom teaching resources based on synthetic phonics.

This reflected a shift away from analytic phonics as a key method of learning to read. 'Synthetic' derives from 'synthesise', meaning to assemble or blend together and synthetic phonics involves learning the grapheme-phoneme correspondence (like 'ay' and 'ai') for all fourty-four phonemes in the English language prior to tackling whole words. Effectively, it is like starting with 'Building blocks' before building the house as phonemes are taught in isolation.

Conversely, analytic phonics starts with real words and phonemes that are associated with particular graphemes are not pronounced in isolation. Children are encouraged to identify common phonemic features in groups of words (sat, cat, fat, mat).This is like looking at the whole house, before thinking about the bricks that make it. There is evidence that many children with Dyslexia find this type of extrapolation very difficult; however many educators are anxious about a 'one size fits all' approach.

Professor Greg Brooks, author of The Dyslexia-SpLD Trust's 'Interventions for Literacy: what works' is a long-term advocate of phonics teaching for literacy support, but worries that the tests for six-year-olds will lead to a narrow curriculum and contribute to anxiety for teachers, parents and children. Additionally, it may encourage teachers to train children to *"…jump through decoding hoops but not make much progress in reading."*

Other concerns include:

- The United Kingdom Literacy Association (www.ukla.org) which has challenged the government's position on the importance of phonics. Although the UKLA admits we have a problem with teaching reading and agrees that action must be taken, it does not believe "*…that a heavy dose of phonics*" will do the trick, and regards the plan to test young children on their knowledge of phonic as "*not helpful*".
- LUCID (www.lucid-research.com), producers of screening software such as LASS – say 'one of the major limitations of the proposed test is that while it will tell teachers whether or not a child's phonic knowledge is up to scratch, it won't tell the teacher **why** a child has not learned phonics'.
- Michael Rosen, children's author, in a letter to the Guardian on 4 June 2012 argues: 'No matter how brilliant at "decoding" we are, it doesn't guarantee we can read for meaning.'
- Amidst these conflicting messages, how best can a school help teachers to ensure the best possible literacy provision for Primary School pupils?

Using The Literacy and Dyslexia-SpLD Professional Development Framework to structure in-house professional development to support teachers working with children in preparation for The Phonics Screening Check:

The Literacy and Dyslexia-SpLD professional development framework offers a 'road map' of available knowledge and resources. In this context, it offers support for a fuller understanding of **Phonics**, set in the context of language and literacy development and theories of Dyslexia AND it supports the wider concepts to provide a fuller and richer understanding of the **Theory and Practice** of supporting learners with Dyslexia

Method for structuring an INSET:

Take the assessment on two strands out of the six available (seen here in bold type):

- **Development of language and literacy**
- Theories of dyslexia/SpLD
- Identifying and assessing dyslexia/SpLD
- **Supporting and teaching learners with dyslexia/SpLD**
- Communicating and working with others
- Professional development and dyslexia/SpLD

A full list of recommended resources will be provided, based on your personalised assessment of the requirements of your school. When I tested this process, acting as a SENCO, the following resources were recommended:

Phonics related resources:

- http://www.teachfind.com/national-strategies/letters-and-sounds-principles-and-practice-high-quality-phonics
- This is a resource for practitioners and teachers on the first phase of Letters and Sounds (Communication, Language and Literacy area of learning of the Early Years Foundation Stage) aimed at teaching young children important basic elements of letters and sounds programme such as oral segmenting and blending of familiar words.
- For specialist literature on phonics teaching see the article by Stuart, M (2006) *Teaching reading: Why start with systematic phonics teaching?* The Psychology of Education Review Vol 30, No 2 September 2006.
- Steven Pinker's website includes a wide range of information and resources on different aspects of language development: https://www.msu.edu/~casby/langdevidcomp/
- The simple view of reading taken from Sir Jim Rose's *Independent review of the teaching of early reading p.77 and p81* (2006) at: http://webarchive.nationalarchives.gov.uk/20100526143644/http://standards.dcsf.gov.uk/phonics/report.pdf
- This visual framework was designed to help practitioners gauge the relationship between decoding skills and comprehension skills in the individual learner.

Specific teaching for the Dyslexic learner:

- The Dyslexia-SpLD *Trust's Interventions for Literacy: What Works?' authored by Professor Brooks. All the interventions featured here are targeted directly on literacy; readily available and have been quantitatively evaluated in the UK.* http://www.interventionsforliteracy.org.uk/
- *Dyslexia and Maths* by Kay, J & D.Yeo (2003), Fulton.
- Contains lots of practical advice on using concrete materials and basic number work.
- *How Dyslexics Learn: Grasping the Nettle*, Saunders K & A. White (2002), Patoss. Recognising learning strengths is a key element to successful teaching. This book concentrates on the successful strategies dyslexics have used and the positive traits associated with dyslexic learners. The theme of the book likens the support dyslexic learners need to the careful husbandry used by a skilled and creative gardener.

Broader based classroom approaches for inclusive teaching include:

- Supporting Students with Dyslexia in Secondary Schools: Every Class Teacher's Guide to Removing Barriers and Raising Attainment. M.Thomson (2008) Routledge
- Accessible Case Studies from an NUT scholarship project: "*Teacher researcher into using thinking skills approaches in the classroom*". These case studies can be used to develop multisensory strategies for action research in individual classrooms.
- See: http://www.teachers.org.uk/node/8130

Academic resources include:

- The EPPI Centre at the Institute of Education provides an accessible resource for evidence based practice: http://eppi.ioe.ac.uk/cms/Default.aspx?tabid=1671
- These suggestions offer the busy SENCO or specialist Dyslexia teacher access to personalised resources and workplace activities to structure up-to-date training in the key areas of knowledge and skills required by teachers. In this case, both Phonics training and Dyslexia appropriate classroom teaching methods have both been addressed. The Framework is free to all users.
- Accessing the Framework:
- http://framework.thedyslexia-spldtrust.org.uk/
- The 'Framework User's Guide' contains additional information to support the practitioner and is available to download from this portal. For further information please contact:

Dr. Amelia Roberts, Project Researcher
Amelia.Roberts@thedyslexia-spldtrust.org.uk

The role and influence of the dyslexia specialist in the mainstream classroom

Dr Lindsay Peer CBE, Educational Psychologist and Author, reviews the role of the dyslexia specialist in mainstream schools.

Background

As we enter the next phase of the recession, it is clear that cutbacks to the education system are having a profound effect upon teaching and learning opportunities for many dyslexic young people. It looks as though only those children deemed to have the most severe special needs will receive additional SEN funding; the rest will be left to struggle. For many, this will mean relying upon the resources and training of mainstream staff in their schools. At the same time some Local Authority SpLD teams are being disbanded leaving many schools with little or no direct access to dyslexia trained specialists.

In many schools I visit, even children with severe dyslexia do not receive direct teaching from specialist dyslexia teachers. Some children may have a limited amount of teaching guided by a specialist teacher and delivered by a TA/LSA. These support staff often do their best to support dyslexic children under the guidance of class teachers who themselves are not dyslexia trained. We know from the MacBeath report 'The Costs of Inclusion' (2005) that whilst support staff are very often kind and caring people, they are not specialist teachers and as a result, expected academic progress is not made. With regard to those with mild-moderate levels of dyslexia, it is often the case that they tend to be reliant upon the class TA/LSA who has limited time and expertise.

Many dyslexic children also have co-morbid conditions for which they should ideally be assessed and treated by e.g. a Speech and Language Therapist and/or an Occupational Therapist. Unfortunately these professionals are a limited resource in many areas of the country particularly in secondary schools; most children never get to see one. They are yet again reliant upon support staff who mostly have little or no training in therapy.

Deep understanding of dyslexia in schools is often quite limited, despite the progress we have made through the hard work of organisations such as the British Dyslexia Association and Dyslexia Action over the years. Whilst there is 'patchy' reasonable provision, there is too much which is not. I have in recent times met staff who think that if you give a child a coloured acetate, that will solve the problem of dyslexia. Others think that a phonics programme for reading is sufficient to meet needs. Yet other staff may place a child on a 'dyslexia' computer programme a couple of times a week and believe that this is good dyslexia teaching. I have seen untrained staff inadvertently misuse programmes, then report that the programmes do not work. There is limited recognition of the difficulties children might experience if the pre-requisites for learning are not secure.

Autonomous universities and ITE courses currently encompass very little in the way of specialist dyslexia training. Staff training in mainstream teachers is happening less and less; appropriate and sufficient resources are often not in place. Again this is partially due to the economic cutbacks. Whatever the reason and however well argued, it is the dyslexic child and the wider community at large who ultimately suffer.

The way forward

Staff at schools, as well as teachers in training, need to be made aware of dyslexia, its impact upon the learning of such children and the strategies needed to address them. As Dr Harry Chasty of Dyslexia Action once famously said 'If they don't learn the way we teach them, can we teach them the way they learn?' In my view, schools should have zero tolerance of failure and staff should be ready to take appropriate and immediate action when targets are not met. Policies need to be altered to address issues such as classroom management, marking systems, setting, structured, sequential, multisensory teaching and overlearning.

It is very important indeed for dyslexia trained teachers to try and influence local schools as far as possible; such professionals are the ones who have the skills and the resources to guide. They understand the link between research, assessment and practice and have strong skills in the teaching of literacy - and possibly mathematics - as well as the ability to appropriately differentiate. They understand the impact of addressing learning styles, memory, language, organisation, processing skills and so on. They have the skills and imagination to help mainstream teachers use a range of methodologies to teach such children appropriately and creatively, helping them learn most effectively.

In my view, the dyslexia specialist in the school should be invited to join the Senior Management Team so that policy changes and practice become embedded in the way schools think and function; this then overrides the 'bolt-on' way of dealing with SEN which is so prevalent, especially in secondary schools. INSETs should be delivered regularly by dyslexia specialists, both in general terms and in subject specific areas.

It is very much the case that many dyslexic children additionally have other co-morbid conditions e.g. Asperger's Syndrome, DCD, AD/HD, speech, language and communication difficulties. Children's strengths and challenges need to be viewed in their entirety and not limited to their documented 'primary' need. Dyslexia trained teachers are well placed

to help identify such children, make referrals for assessment and recommend effective teaching strategies.

Mental health issues may develop due to the frustration and anxiety of on-going academic, social and emotional struggles at school. Anger is still sometimes viewed as an entity which needs behavioural management, rather than adaptation of teaching strategies. Waiting times for appointments at Child and Adolescent Mental Health Services (CAMHS) can be very long indeed.

Even in schools which pride themselves in their way of 'dyslexia friendly' working, I often hear that no dyslexia trained member of staff monitors dyslexic learners in mainstream lessons. Dyslexia specialist teachers have the skills to model and direct effective teaching practice for a range of children who experience difficulty learning. They have the skills to additionally work with parents / carers guiding support at home where this is a possibility.

Dr Lindsay Peer CBE is an Educational Psychologist, Speaker and Author and was formerly Education Director and Deputy CEO of the British Dyslexia Association.

Dr Gavin Reid and Dr Lindsay Peer, 'Special Educational Needs: A Guide for Inclusive Practice' (Sage 2012)
For those of us immersed in the world of dyslexia, ensuring that we move forwards and not backwards is a key priority, despite the prevailing winds of politics. Ensuring that skills gained by specialist dyslexia teachers are then shared, is fundamental in creating change and opportunities for dyslexic people and others with SEN.

For this very reason, the chapters have been written by a wide range of experts in the field of SEN practice, research and policy merging their knowledge of research and practice. Such information, alongside the expertise of dyslexia trained teachers will I hope make a significant difference to the lives of many children and their teachers.

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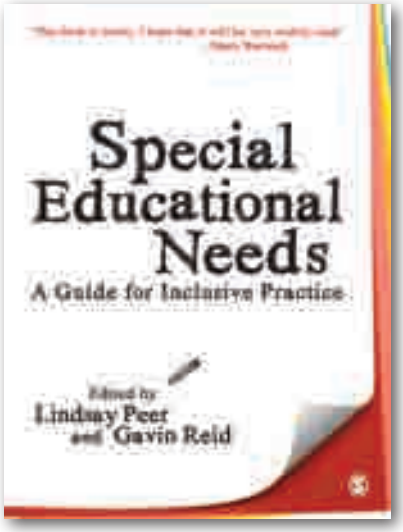
Book Reviews

Lindsay Peer & Gavin Reid. (2012). *Special Educational Needs: A guide for Inclusive Practice*. London: Sage.



Reviewed by Shobha Coutinho
Dyslexia Action Principal and e-learning tutor, Tonbridge Centre

This book brings together a wealth of information and guidance from professionals in the field of Special Educational Needs. The book is well signposted enabling ready reference but is also written in a very readable style for more thorough reading. The book is targeted at specialists or those training to become specialists in the field of special education.

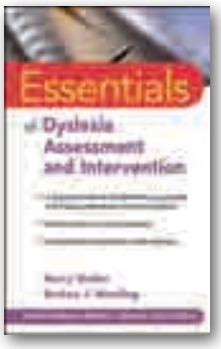
The book begins with an update on current policy, research and practice with some interesting points for discussion and suggestions for further reading. The emphasis of the book is on linking together the broad area of special educational needs. This is achieved through fascinating contributions from experts in a range of fields including, amongst others, Sheena Bell and Bernadette McLean discussing key issues pertaining to teacher training best practice and Steve Chinn on Dyscalculia.

Each chapter begins with a section outlining the ''Learning Objectives'' and concludes with a summary. Examples of case studies and a list of relevant websites are also provided nicely linking up theory and practise and pin-points readers in the right direction for further reading. The book concludes with a section on 'working together' and a touching chapter on parents' perspectives. This book is ideal for anyone wanting to become a specialist teacher.

Study Skills for Students with Dyslexia, Second Edition
By Sandra Hargreaves. Paperback ISBN: 9781446202876 (RRP £19.99)

Full of advice on topics such as note taking, reading strategies and exam technique, this fully revised, up-to-date new edition will motivate, inspire and guide dyslexic students in further and higher education. The book comes with a CD Rom which includes an e-copy of the book, planners and other extra resources! SAGE Publications is offering readers **a special 20% off** RRP on this title for a limited period only! Simply enter the discount code **UK12EM037*** when you order on www.sagepub.co.uk *Offer valid till 07/10/2012

Mather, N. & Wendling, B. J. (2012). *Essentials of Dyslexia, Assessment and Intervention*. Hoboken, New Jersey: John Wiley & Sons, Inc. ISBN 978047092760 RRP £25.99 pbk



Reviewed by Sue Lomas, Dyslexia Action Specialist Teacher and Assessor, Leeds Centre.

This is a very wide ranging book that is designed 'for assessment professionals, educators and parents who are interested in understanding, assessing and helping individuals with dyslexia'. The authors are both experienced writers with a background in assessment and education, although some chapters have been written by other subject specialists.

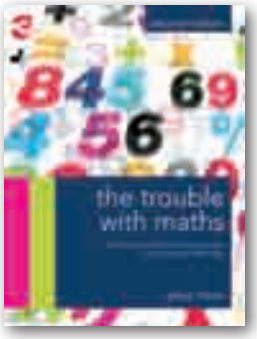
The book starts with four chapters of information on dyslexia, covering definitions, a brief history, the brain and dyslexia and finally genetics and the environment. There are then two chapters on assessment followed by three chapters on instruction. Finally there are chapters on technology (for students with dyslexia) and dyslexia in other languages and in schools. The chapters are written in an accessible style and set out with headings and boxed summaries making them easy to read and refer back to. I found the Rapid Reference lists that appear regularly throughout the book very helpful. At the end of every chapter there is a 'Test Yourself' section. The book also has numerous appendices: descriptions of evidence based programmes, a detailed glossary, a long list of references and an annotated bibliography. The book is from an American publisher but in most respects its content is applicable to the British educational system, indeed the authors frequently quote from Hulme and Snowling [1].

Many people would find this book useful. Students on a postgraduate course will gain a sound understanding of various aspects of dyslexia, both practical and theoretical; the list of references is comprehensive and up-to-date. For new teachers of children with dyslexia it gives information on the theory and practice of teaching reading and spelling; more experienced teachers will also learn something new from it. The chapters on assessment will be of interest to anyone involved with testing, covering as they do the rationale behind assessment and listing many different tests and exploring what they measure. For SENCOs and classroom teachers with an interest in dyslexia it will be a valuable resource, but at over three hundred pages it possibly contains too much information for a busy classroom teacher. I found this book a fascinating read and would recommend it to anyone working with teaching or assessing children or adults with dyslexia, It is packed full of information and very accessible.

Sue will be retiring in September 2012 and Dyslexia Action would like to thank her for the many years of service she has given the charity, and wish her all the very best for the future.

[1] *Hulme C & M.J.Snowling, (2009) Developmental Disorders of Language Learning and Cognition, John Wiley and Sons.*

Chinn, S. (2011). *The Trouble with Maths: A Practical Guide to Helping Learners with Numeracy Difficulties*. 2nd ed. Routledge. ISBN 978-0415670104 RRP: £25.00



Reviewed by Victoria Matthews-Patel, Dyslexia Action Training, CPD Programme Manager

As a former teacher of lower primary aged children, I was pleased when I was asked to review this book as I have direct experience of the difficulties that can be experienced and the anxiety that mathematics can cause even very young children. At the time, I remember being frustrated that I did not feel I knew enough about how to support each child effectively.

Steve Chinn is a well respected author of many books about mathematics. He shares his extensive knowledge and his many years of practical experience to produce a book full of practical strategies. A range of issues is explored, including thinking styles, difficulties learners have with mathematical language, developmental perspectives and the inconsistencies of mathematics. Chinn illustrates the problems to look out for, suggests reasons behind the problems and offers practical suggestions to help address them. He breaks mathematical concepts down into their component parts and makes clear the different elements involved. The importance of making connections and patterns explicit and showing how mathematical facts can be linked is stressed. Chinn places the focus in mathematics on the individual learner, on the need for flexible thinking and the importance of meta-cognition.

Chinn's book would provide an invaluable start for a numeracy co-ordinator wishing to review current approaches to mathematics within their school and/or to advise other teachers on how learners can be best supported. It could also be an invaluable source of support to all involved in the delivery and support of mathematics; SENCOs, learning support tutors, mathematics teachers, general primary class teachers and teaching assistants involved in teaching or supporting learners in this subject would benefit from it. Parents of children who are anxious about and/or who are experiencing difficulties in this subject will be reassured by the explanations and the wealth of practical strategies offered. It is a well structured and easy to read book which can be dipped into for information and support as and when required, and, as such, is reasonably priced. Reading this book I found myself wishing I had owned a copy of it when I was a classroom teacher as I would have felt much better equipped to support individual learners within my class.

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Dyslexia Action

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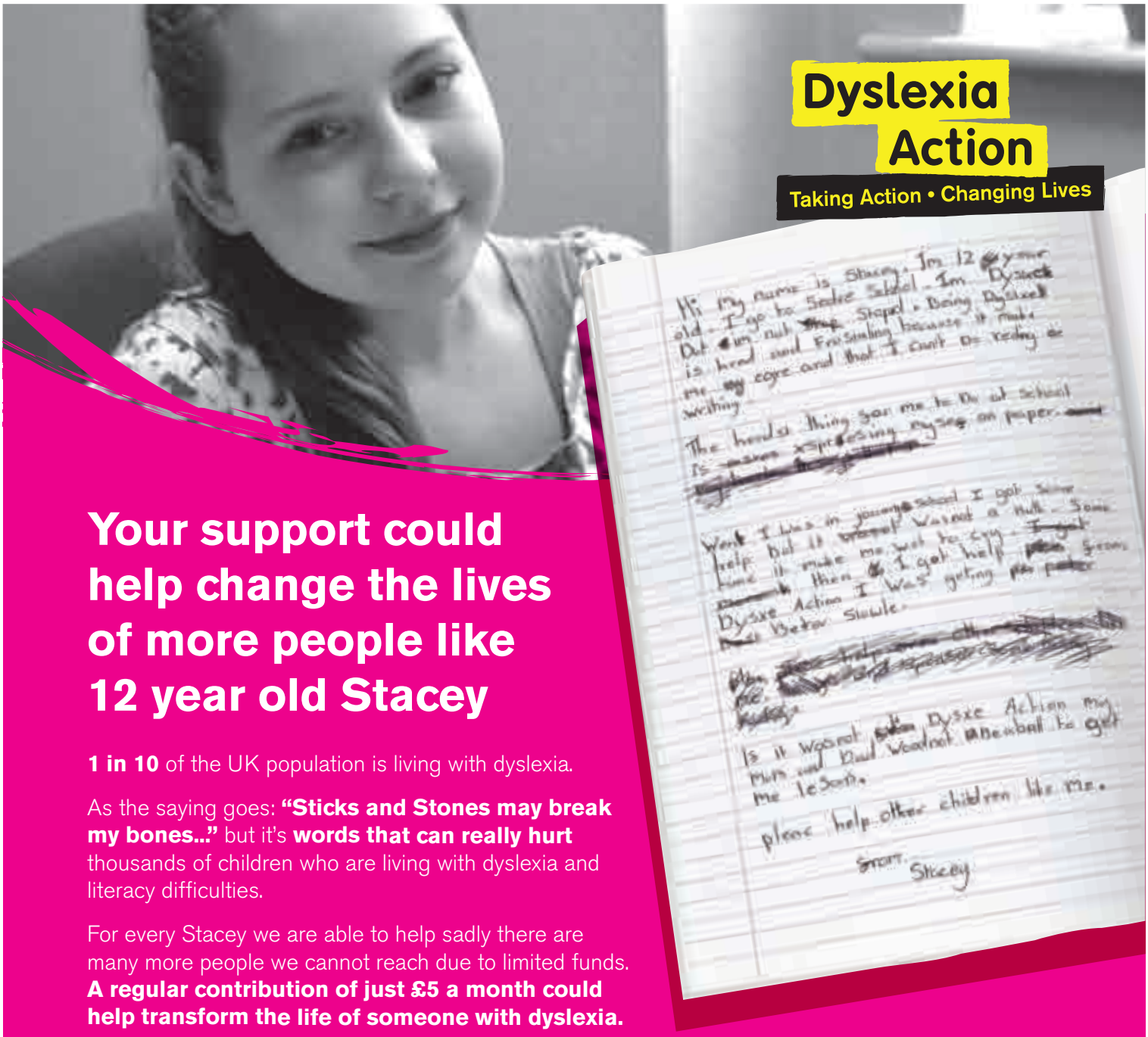

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